

Parents' Educational Expectations for Young Children with Autism Spectrum Disorder

Hillary H. Bush
Massachusetts General Hospital

Shana R. Cohen
University of California, San Diego

Abbey S. Eisenhower
University of Massachusetts, Boston

Jan Blacher
University of California, Riverside

Abstract: Among typically developing children, many characteristics have been associated with parents' expectations for their children's adjustment to school and academic progress. Despite the history of increased parental involvement in the education of children with autism spectrum disorder (ASD) relative to parents of children without ASD, there is little research on the educational expectations that parents hold for their young children with ASD and how they are formed. In the current study, we addressed this gap by using a mixed methods design to examine the association between parents' expectations for the level of success their children would achieve during the current school year, and multiple child-, parent/family-, and teacher/school-level factors, among parents of 4 to 7 year olds with ASD (N = 121). When these different factors were considered simultaneously, children's externalizing behaviors, parents' educational level, and parents' employment status were found to be significantly associated with parents' expectations of schooling.

Parents' expectations for their children shape their parenting behaviors, and consequently, children's self-concept, school adjustment, and academic outcomes (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). In fact, parents who hold high academic expectations have children who exhibit better school outcomes than might be anticipated based solely on their cognitive functioning or previous academic achievement (de Boer & van der Werf, 2015). Past research suggests that parents' expectations may play a protective role in children's academic achievement for children facing risk factors, such as economic disadvantage (Alexander, Entwistle, & Bedinger, 1994; Davis-

Kean, 2005). However, despite the potentially influential role of parents' expectations of schooling, very little attention has been placed on parents' expectations for their young children with autism spectrum disorder (ASD) as they transition into early schooling. In the current study, we examined parents' school-related expectations for their young children with ASD, as well as their child-, parent/family-, and teacher/school-level correlates. The intent was to identify areas where professionals might better understand and support parents of children with ASD adapting to school entry.

This paper was based on the activities and original conceptual model of a longitudinal study funded by the Institute of Education Sciences (R324A110086; J. Blacher, P.I.) Support was also provided by the SEARCH Family Autism Resource Center in the Graduate School of Education, UC Riverside. Correspondence concerning this article should be addressed to Hillary H. Bush, Learning and Emotional Assessment Program (LEAP), Department of Psychology, Massachusetts General Hospital, 151 Merrimac St., 5th floor, Boston, MA, USA, 02114. E-mail: hbush@partners.org

Ecological Systems Theory and School Adjustment

In examining the individual, family, and school contexts that relate to parents' expectations of schooling and academic achievement for their children with ASD, Bronfenbrenner's (1979) ecological model provides a useful guide (Eisenhower, Bush, & Blacher, 2015; Odom et al., 2004). Ecological systems theory suggests examining not only direct contextual influences, such as parents, school, and peers (microsystem), but also the effects

of interactions between these contexts, such as parent-teacher communications and relationships (the mesosystem). More external factors also affect children's experiences, including the special education service system (the exosystem), and broader, societal factors (e.g., laws such as the Individuals with Disabilities Education Act, 2004) that govern service provision (the macrosystem). Finally, developmental changes over time, for both the child and these systems, warrant consideration (the chronosystem). Overall, child, parent, teacher, classroom, school factors, and interactions among these systems are likely to influence school adjustment for young children with ASD (Pianta, 2010). The importance of considering the influence of multiple environmental and contextual factors in the lives of individuals with disabilities is reflected in the *International Classification of Functioning, Disability and Health* (WHO, 2001). Given our aim – to explore the educational expectations of parents who raise children with ASD – we do not seek to replicate Bronfenbrenner's (1979) ecological model, but instead to examine how parents' educational expectations may shape children's school experiences, including the interactions that children have with teachers. This study will support a more in-depth understanding of the microsystem and the mesosystem for the children with ASD in our sample.

Parent Expectations for Typically Developing Children

Prior research with typically developing children has shown that child characteristics, such as greater intellectual ability, greater academic achievement, and more positive attitudes toward learning, are positively associated with parents' educational expectations (Briley, Harden, & Tucker-Drob, 2014; Johnson, McGue, & Iacono, 2007; Sonuga-Barke, Stevenson, Thompson, Lamparelli, & Goldfoot, 1995). For example, Sonuga-Barke and colleagues (1995) found that parents held greater educational attainment expectations for children who showed more advanced cognitive abilities, and physical and behavioral self-regulation; these findings were evident for children as young as 3 years old.

Parent and family characteristics also have

been associated with parents' educational expectations among parents of typically developing children. For example, ethnic minority parents, and parents with less annual income and fewer years of education have reported lower and/or more misaligned expectations of schooling for their children than parents from more socio-economically advantaged backgrounds (Alexander et al., 1994; de Boer & van der Werf, 2015; Yamamoto & Holloway, 2010). Relatively less research has examined the impact of teacher and school characteristics (microsystem), parent-teacher relationships (mesosystem), and their associations on parents' educational expectations. However, in a recent study by Lawrence (2015), parents' income was found to moderate the relation between racial diversity within the school and parents' educational expectations. Specifically, for lower income parents, expectations were higher when schools were more racially diverse; however, expectations were not correlated with racial diversity of the school for higher income parents. While this finding requires additional investigation, it does suggest that, to varying degrees, parents of typically developing children consider teacher- and school-level factors (e.g., student body characteristics) when forming expectations for their children's schooling. Teacher- and school-level factors may be particularly relevant when a child has ASD, as parents may have particular concerns about classroom placement, teacher qualifications, or the amount of time the child interacts with typical peers during the school day (Tobin et al., 2012). For example, it may be the case that when parents believe that the school setting is a good match for their children's needs and have confidence in teachers' abilities, then they may be more optimistic and form more positive expectations for the school year ahead. Further, longitudinal studies among typically developing children have shown a positive, transactional relation between parents' expectations and children's academic performance, with parents' expectations and academic achievement predicting increases in one another over time (Briley et al., 2014). Further research is needed to understand whether these patterns also exist for parents of children with ASD.

Parents' Expectations for Children with ASD

While most research in this area has examined parents' educational expectations for their typically developing children, a few studies have examined parents' school-related expectations for their young children with ASD. Ivey and colleagues (2004) explored expectations of educational attainment, employment, and family life among 25 caregivers of children (4-20 years old) with ASD. In this study, parents identified both the *importance* of certain goals, and the *likelihood* that their children would achieve them. Parents rated attending school highly important and they viewed it likely that their children with ASD would do so. However, they rated "achieving the highest education possible" and "being successful in school" as important, yet less likely to occur. In another study, Chiang and colleagues (2012) examined how parents' expectations predicted postsecondary education for 830 adolescents with ASD. Parents' expectations for their children to pursue postsecondary accounted for unique variance in students' subsequent educational attainment, after accounting for variables such as children's verbal skills, and the presence or absence of intellectual disability. Indeed, 78% of students who pursued postsecondary education had parents who expected that they would; 75% of those who did not pursue postsecondary education had parents who expected that they would not. These findings are consistent with those of many non-ASD studies: parents' expectations were strong predictors of academic achievement.

There are important ways in which expectations may differ between parents of typically developing children and parents of those with ASD. Parents of children with ASD may face unique barriers that impede formation of positive expectations of schooling. Such barriers might include parents, teachers, and therapists having different goals and beliefs about what would be best for the child, which may impede the child from maximizing his or her academic potential (Parsons, Lewis, & Ellins, 2009; Russell, 2005). Parents' and teachers' expectations may differ in the extent to which they are achievable or realistic, given children's current level of functioning; this contrast could lead to strained communications

and goal-setting between parents and teachers. Similarly, parents may hold expectations that prioritize or emphasize different aspects of the child's development, such as social or emotional development versus academically-focused expectations. Further, tensions may arise when parent expectations do not align with the services that are available or feasible within the school district (Russell, 2005), or when parents encounter difficulties communicating or sharing their perspectives with the educational team (Tucker & Schwartz, 2013). On the other hand, parents of children with ASD, who have an Individualized Education Plan (IEP), are more likely to be actively involved in their children's day-to-day educational experiences (e.g., engaging in consistent communication with the child's teacher or therapists, attending conferences and meetings more frequently), as compared to parents of typically developing children, without an IEP (Wagner, Newman, Cameto, Javitz, & Valdes, 2012; Zablotsky, Boswell, & Smith, 2012). This regular involvement may provide parents with specific knowledge about their child's capabilities, resulting in more alignment or specificity in parents' expectations.

Research Questions

The current study is part of a multisite, longitudinal study on the educational experiences of early elementary age children with ASD, with the overarching goal of better understanding the factors that promote adaptation to formal schooling and positive school adjustment for this population. The focus here is on the following two research questions:

1. What types of school-related expectations do parents hold for their young children with ASD?
2. Which child-, parent/family-, and teacher/school-level factors are associated with parents' educational expectations for their young children with ASD?

Method

Participants

Participants in the current study included triads of youth with ASD ($n = 121$, 83% male),

one parent per child ($n = 121$, 86% biological mothers), and one teacher per child ($n = 104$, participation rate = 86%). On average, children were 5 years, 8 months (range = 4–7 years) and parents were 38 years old (range = 24–52). Most of the children attended a public school (88%), and were in preschool (37%), kindergarten (31%) or first grade (25%). About half of the children were in small, special education classes (overall mean class size = 16) for 50% or more of the school day. Parents racially identified as White (69%), Latino (9%), Asian American (8%), multiracial (8%), Black (6%), and other races (1%), based on an open-ended item later aggregated into categories. Most parents were married (84%) and held at least a 4-year college degree (74%). Half of the families had annual incomes above \$80,000, and 54% of parent respondents worked outside the home. Families were recruited through schools, autism clinics, and word of mouth in the northeastern United States (42%) and southern California (58%). Most teacher participants ($n = 104$) were White (77%) and female (87%), with a master's degree or higher (66%). Teachers had an average of 13.8 years of teaching experience (range = 1–44).

Measures

Parents' educational expectations. Each parent completed a 20–35 minute structured, qualitative interview with a trained research assistant, which focused on different aspects of children's school adjustment (e.g., getting along with teachers, steps the parents and/or teacher had taken to prepare the child for the upcoming school year). Given the limited existing research on school adjustment among young children with ASD, a structured interview script was developed specifically for the current study and a qualitative, phenomenological approach to understanding parents' perceptions of their child's educational experiences was employed. During the interview, the following question was presented to all participants: "How do you think your child will do this year in school?" The aim of this question was to explore parents' schooling expectations for their child in an intentionally broad manner, in order to capture the full range of expectations that they might hold.

The interview did not ask specifically about academic versus other types of expectations (e.g., social, behavioral), with the understanding that some parents might emphasize some domains more so than others. If parents did not discuss the presence of characteristics or experiences that might make school easier or more challenging in their initial response, then they were asked specific follow-up questions about these. A detailed manual was developed for the current study, and a coding team listened to recordings of parents' responses and coded each one on a 4-point scale, reflecting the level of success anticipated for the child. The codes included: 4 = "successful", 3 = "mostly successful", 2 = "somewhat successful", and 1 = "not at all successful" (see Table 2 for further explanation of each code and example quotes from parents). The coding team consensus-coded 20% of the interviews ($n = 25$) and achieved inter-rater reliability of 88%.

Child behavior problems. The parent-reported *Child Behavior Checklist ages 1.5–5* and the *Child Behavior Checklist ages 6–18* (CBCL; Achenbach & Rescorla, 2000, 2001), depending on the age of the child, were used to assess children's behavior problems. Items present child problems alphabetically (from "aches and pains without medical cause" to "worries"), parents are asked to rate whether each problem was *not true, somewhat or sometimes true, or very true or often true* for their child over the past two months. The measures yield broadband Internalizing and Externalizing T scores ($M = 50$, $SD = 10$), with higher scores indicating higher levels of symptomatology. The CBCL has demonstrated excellent validity and both total and broadband scores are correlated with other measures of behavior problems (Achenbach & Rescorla, 2000). In the current study, Cronbach's alphas ranged from .82 to .91.

Child social skills. The parent-reported *Social Skills Improvement System-Rating Scales* (SSIS-RS; Gresham & Elliott, 2008) was administered to assess children's social skills. On the SSIS-RS, respondents rate the frequency of behaviorally specified social skills on a 4-point scale of *never, seldom, often, and almost always*. The scale yields scores that can be converted to standard scores ($M = 100$; $SD = 15$); children's total standard scores were analyzed in the cur-

rent study. On this measure, higher scores indicated higher levels of social skills. The total standardized score was chosen as it has demonstrated high internal consistency, strong construct validity, good test-retest reliability, and good convergent validity (Gresham & Elliott, 2008). Versions of the SSIS-RS have been used to assess social functioning in children with autism (Frankel, Myatt, & Feinberg, 2007) and intellectual disabilities (Neece & Baker, 2008). In the current sample, Cronbach's alpha was .85.

Children's ASD symptoms. To assess ASD symptomatology, parents completed the *Social Responsiveness Scale* (SRS; Constantino & Gruber, 2005). The 65-item SRS assesses receptive, cognitive, expressive, and motivational aspects of social behavior, as well as autistic preoccupations. The SRS total T score ($M = 50$; $SD = 10$) distinguishes children with ASD from children with and without different psychological disorders (Constantino, Przybeck, Friesen, & Todd, 2000). A high score on this measure indicates greater autism symptomatology, or less social responsiveness. In the current sample, Cronbach's alpha was .88.

Child language skills. To assess language skills, children were administered the *Comprehensive Assessment of Spoken Language* (CASL-2; Carrow-Woolfolk, 1999), a performance-based, standardized assessment of language for individuals 3–21 years old. All child participants completed the Syntax Construction and Pragmatic Judgment subtests; higher scores indicate greater language skills. The CASL-2 has demonstrated good construct validity and strong reliabilities of .90 and higher (Carroll-Woolfolk, 1999). The measure has been widely used among children with autism, as well as children with language delays, aphasia, and intellectual disabilities (e.g., Reichow, Salamack, Paul, Volkmar, & Klin, 2008); its inclusion of verbal and nonverbal responses, independent of reading and writing, is also advantageous.

Child literacy skills. Children were administered the following subtests of the *Woodcock-Johnson III Normative Update Tests of Achievement* (Woodcock, McGrew, & Mather, 2007), each of which was selected to assess a central aspect of literacy: Letter-Word Identification (letter and word knowledge), Word Attack (phonics), and Picture Vocabulary (vocabulary).

On these subtests, higher scores indicate greater skills. In the standardization sample, reliability of individual subtests ranged from .74 to .94. The WJ-III has strong test-retest reliability and adequate validity with young children (Woodcock et al., 2007), and has been used with children with ASD (e.g., Newman et al., 2007).

Demographics. Background information was obtained through parent- and teacher-report surveys. Variables included parent age in years (continuous), parent education level (ordinal), parent employment (ordinal; full-time/part-time/not employed), household income (ordinal), teacher education level (ordinal), years of teaching experience (continuous), classroom size (continuous; number of students), and the percentage of time the target child spent in the general education classroom (ordinal).

Parent-teacher interactions. Parents' perceptions of their interactions and relationships with their children's teachers were measured using modified versions of the parental school involvement subscale (16 items) and the parent-teacher relationship subscale (9 items) of the *Parent-Teacher Involvement Questionnaire: Parent* (PTIQ-P; Corrigan, 2002; NICHD, 2005). Items on the parental school involvement subscale assessed how frequently the parent initiated or received different types of contact from the child's school or teacher (e.g., "I receive a written report on my child's progress or activities"), while items on the parent-teacher relationship subscale assessed the parent's feelings about their interactions, communications, and relationship specifically with the teacher (e.g., "I feel comfortable talking with my child's teacher"). On these subscales, higher scores indicate higher levels of parental school involvement and perceptions of the parent-teacher relationship, respectively. The PTIQ-P has shown good predictive validity with measures of child academic engagement and student-teacher relationship quality in young children, and has distinguished between high- and low-risk families (Corrigan, 2002). In the current sample, Cronbach's alpha was .60 for the involvement subscale and .94 for the relationship subscale. The relatively low alpha for the involvement subscale is consistent with a technical report published by the NICHD (Corrigan, 2002),

and it likely reflects the fact that it included items reflecting both parents' behaviors (e.g., asking the teacher questions about one's child), and teacher and school practices that are not under parental control or that parents may not know as much about (despite receiving a written report about the child's daily activities, or a log entry).

Procedure

Participants were drawn from a multi-site, longitudinal study of school adaptation among children with ASD. At an initial visit at study offices, children were assessed for eligibility with the Autism Diagnostic Observation Schedule (ADOS; Lord et al., 2000) and a brief battery of Wechsler Preschool and Primary Scale of Intelligence, 3rd Edition (WPPSI-III; Wechsler, 2002). This battery included the Matrix Reasoning, Vocabulary, and Picture Completion subtests, which has demonstrated high reliability and convergent validity with the complete WPPSI-III (Sattler, 2008). Eligible participants were those who (a) scored in the autism or autism spectrum range on the ADOS, (b) had received a previous diagnosis of ASD from an out-of-school clinician or also scored in the autism or autism spectrum range on the Autism Diagnostic Interview – Revised (ADI-R; Lord, Rutter, & Le Coulter, 1994), (c) earned an estimated IQ score of 50 or higher on the abbreviated WPPSI-III battery, and (d) were ages 4 to 7 years and entering elementary school or their final year of pre-K. Participating child and parent dyads returned to study offices for additional data collection after the eligibility visit; parents were also given a questionnaire packet for the child's teacher to complete and mail back to the study offices. Although this was a multi-wave study, data presented here were from the first time point following the eligibility visit. Informed consents were obtained from all parents and teachers included in the study, and they received an honorarium for their participation. IRB approval was obtained for all aspects of the study.

Data Analyses

Analyses were performed with SPSS 22.0. Parent interview data were complete for all 121

participants, and less than 5% were missing for parent-report questionnaires and child assessment measures. Teacher-report data were missing for 23% of the sample. Results of Little's Missing Completely at Random (MCAR) Test suggested that data were missing completely at random [$\chi^2 (10, N = 85-93) = 6.39$, $p = .78$]. Thus, to avoid the loss of statistical power associated with listwise deletion of missing teacher data, multiple imputation was applied in five iterations to estimate continuous missing values on the scale level.

Results

Descriptive Analyses of Parents' Educational Expectations

Qualitative analysis of parents' interview responses showed that 17% of parents expressed wholly positive expectations, with no concerns for the school year ahead (code = 4, "successful"). These parents believed that their children would succeed in school and discussed only positive factors, such as children's reading ability or comprehensive supports provided through the IEP. The largest percentage of parents (48%) expressed mostly positive expectations, but also one or two concerns about the upcoming school year (code = 3, "mostly successful"). Frequently, these parents discussed relatively strong academic skills and relatively weak social skills, as well as one or two issues (e.g., a problem behavior) that could cause challenges at school. Some parents (29%) had mostly negative expectations, citing three or more concerns, but still expressed some guarded optimism and hope (code = 2, "somewhat successful"). These parents often expressed concerns about the greater school environment, including children's educational team members whom they felt were not meeting their responsibilities, or accommodations in the IEP that were not being provided. Six percent of parents had wholly negative expectations and did not identify any positive, hopeful, or protective factors that could help their children adjust to school (code = 1, "not at all successful"). Thus, about a third of parents had negative expectations about their child's performance and experience in school (see Table 1).

TABLE 1

Parents' Qualitative Responses Regarding Educational Expectations (N = 121)

Code	Interpretation	% of sample	Illustrative quotes
4	“ successful ” = parents exhibited only positive expectations about their child’s schooling	17	“I think he’s going to nail kindergarten. He already is. The teacher told my nanny that she’s never given so many awards to a kid before, and that was in mid-October . . . the academics of kindergarten, he’s already well above where he should be.”
3	“ mostly successful ” = parents exhibited mainly positive expectations about their child’s schooling, but also discussed 1–2 concerns	48	“I feel he’s always done well and will this year also. I think. He thrives in that constant-type school schedule . . . understanding how to behave in school, he’s doing very well. He’s thriving in that kind of structured environment . . . in all things except straight academics, first-grader level-type stuff, I think he’s going to do well this year. Of course, that’s part of an IEP, whatever level he’s academically. We don’t really have expectations about [academics].”
2	“ somewhat successful ” = parents exhibited mainly negative expectations for their child’s schooling, citing 3 or more concerns, but also expressed guarded optimism and hope	29	“Academically, I think he’s going to be able to stay on track . . . however, I have worries that he’s just not going to be able to work independently enough to function well in a class. Again, I think he’s very immature. It really worries me that he might not fit in with the other kids who are at first-grade mentality. I think socially he’s going to really, really struggle.”
1	“ not at all successful ” = parents exhibited wholly negative expectations and had difficulty identifying any positive, hopeful, or protective factors	6	“I don’t know. He’s going to have a hard time. We already had a meeting because he’s not doing well transitioning and has been refusing to go to school. So, I’m worried he’s not going to do well this year.”

Factors Associated with Parents' Educational Expectations

Child-level factors. Higher parent educational expectations were associated with lower levels of parent-reported internalizing problems [$rs(119) = -.24, p = .01$], externalizing problems [$rs(119) = -.34, p < .001$], ASD symptoms [$rs(119) = -.29, p < .01$], and marginally with children’s age [$rs(119) = -.20, p = .06$]. Higher parents’ expectations also were associated with emerging reading skills [$rs(119) = .24, p < .01$] and phonics skills [$rs(119) = .19, p = .04$], and marginally with greater social skills [$rs(119) = .18, p = .06$]. Parents’ expectations were not associated with child gender, IQ, or language skills (pragmatic language, syntactical language skills, or vocabulary; see Table 2).

Parent- and family-level factors. Higher parent educational expectations were associated with higher levels of parental education [$rs(119) = .19, p = .04$]. Male parents were observed to hold higher expectations than female parents [$t(119) = 2.19, p = .03$], but since the vast majority of parent participants were female, this finding should be interpreted with caution. Parent expectations were not associated with employment status or household income.

Teacher- and school-level factors. Higher parent educational expectations were associated with more positive perceptions of the quality of the parent-teacher relationship [$rs(119) = .19, p = .04$], and marginally with smaller classroom sizes [$rs(119) = -.17, p = .08$]. As compared to parents who reported lower ex-

TABLE 2

Descriptive Statistics and Relations between Child-Level Factors and Parents' Expectations

	<i>N</i> (% of Sample)	<i>Range</i>	<i>M</i>	<i>SD</i>	<i>Median</i>	<i>% in Borderline or Clinically Elevated Range</i>	<i>Relation with Parents' Expectations</i>
Parents' expectations	121	1-4	2.78	.80	3	—	—
Child-level factors							
Gender	121	83% male	—	—	—	—	<i>t</i> (119) = .69
Estimated IQ	121	46-123	89.6	17.1	90	13.3/12.4	.01
Age (months)	121	44-90	66.2	11.8	67	—	-.17†
Social skills	121	40-120	78.9	15.0	79	27.6/24.1	.18†
Internalizing behavior	118	34-93	62.4	9.9	63	22.0/42.4	-.24*
Externalizing behavior	118	32-88	58.9	10.4	59	16.1/31.4	-.34***
ASD symptoms	120	46-90	78.1	11.6	81	21.8/22.7	-.29**
Language: Syntax	120	41-152	84.5	19.0	85.5	19.0/21.7	.07
Language: Pragmatic Judgment	120	43-142	81.9	17.8	81.5	17.5/31.7	.02
Literacy: Letter-Word Identification	121	49-156	111.1	18.3	111	1.6/1.6	.24**
Literacy: Word Attack	104	65-156	114.3	17.7	114	1.0/3.0	.19*
Literacy: Picture Vocabulary	121	14-137	96.7	15.9	98	6.4/2.5	.07

Note. *** $p < .001$. ** $p < .01$. * $p < .05$. † $p < .10$.

expectations, parents held higher expectations when they experienced a positive relationship with their child's teacher; their expectations were slightly lower when their children were attending larger classes. Parents' expectations were not associated with teacher education level, years of teaching experience, amount of time the child spends in general education, or level of parental school involvement.

Regression Analyses

In the final set of analyses, the child-, parent/family-, and teacher/school-level factors found to be significantly correlated with parents' expectations were entered as predictors into a binary logistic regression. Given the ordinal nature of the parent expectation variable, it was dichotomized (codes of 3 and 4 = "higher expectations", codes of 1 and 2 = "lower expectations") before being entered as the dependent variable. The logistic regression contained three steps. *Child-level factors* including internalizing behavior, externalizing behavior, ASD symptoms, emerging reading skills, and vocabulary skills were entered in the first step. While phonics skills also were significantly correlated with parents' expectations, phonics skills and emerging reading

skills were very highly correlated with each other [$r(119) = .79, p < .001$] and to avoid multicollinearity, the phonic skills variable was excluded from the model. A *parent/family-level factor*, parents' education, was entered in the second step. Finally, a *teacher/school-level factor*, parent-teacher relationship quality, was entered in the third step. When these factors were considered simultaneously, only externalizing behavior ($B = -.09, SE = .03, OR = .91, p < .01$) significantly predicted parents' expectations (see Table 3). Specifically, parents with children who exhibited fewer challenging behaviors reported more positive expectations for the school year ahead, as compared to parents with children who exhibited more behavior problems.

Discussion

Many parents of children with ASD were optimistic about the school year ahead, with the majority expressing mostly positive expectations and only mild concerns (48%), and some expressing wholly positive expectations and no concerns at all (17%). These generally positive expectations were consistent with Ivey's (2004) findings and may set an early, positive tone for interactions among students,

TABLE 3**Summary of Binary Logistic Regression Analysis for Child-, Parent/Family-, and Teacher/School-Level Variables Predicting Parents' Expectations**

	<i>B</i>	<i>SE</i>	<i>Adjusted OR</i>
Step 1: Child-level factors			
Internalizing behavior	.02	.03	1.02
Externalizing behavior	-.09**	.03	.91
ASD symptoms	-.03	.03	.98
Emerging reading skills	.02	.02	1.02
Vocabulary skills	.00	.02	1.00
Step 2: Parent/family-level factor			
Parent education			
High school or less	1.23	1.11	3.44
Some college	.39	.93	1.47
College degree	-.19	.87	.83
Master's degree	.02	.91	1.02
Step 3: Teacher/school-level factor			
Parent-teacher relationship quality	.03	.03	1.03

Note. *** $p < .001$. ** $p < .01$. * $p < .05$. † $p < .10$. This table reflects imputed data.

parents, and teachers. Although about a third of parents did express negative views, our findings suggest that negative expectations are relatively less common among parents of young children with ASD. Thus, when school professionals do encounter parents with low expectations, they should try to understand and address the reasons why parents might be feeling less optimistic. Based on the assumption that parents' expectations may play an important role for typically developing children and children with ASD alike, it is important to understand and address the barriers to parents holding positive educational expectations for their children with ASD. Specifically, the current study revealed that parents held low expectations for their children's school outcomes when their children exhibited externalizing behavior problems. Although this study was correlational and could not address causality, this finding suggests that early intervention providers would particularly benefit from training in addressing challenging behaviors and in coaching parents to respond to these behaviors themselves. Conversely, it is possible that children's externalizing behaviors are interfering with success in school and indirectly affecting parents' expectations, thus underscoring the importance of supporting teachers to address challenging behaviors in the classroom.

Unique to the current study was the extent to which children's behavioral characteristics and ASD symptoms were associated with parents' expectations. Indeed, when other factors were accounted for, children's externalizing problems were the sole predictor of parents' educational expectations. Surprisingly, parents' educational expectations were uncorrelated with children's intelligence or estimated IQ – a departure from the findings of some previous non-ASD studies (e.g., Johnson et al., 2007; Sonuga-Barke et al., 1995). Behavioral development and adjustment are areas of need for many children with ASD; as such, these areas are more salient on a day-to-day basis and likely more closely reflected in parents' expectations than IQ or academic factors. Another paper with the same sample as the current study indicated that behavioral challenges, more so than intellectual challenges, accounted for difficulties with school adjustment (citation removed for anonymous peer review). The current findings reflect the factors that may help to align IEP goals and expectations between parents and teachers. Additionally, this understanding may help teachers and parents shape behavioral and socio-emotional curriculum development in the classroom.

In addition to child-level characteristics, some relations were observed between par-

ents' expectations and parent/family-level factors and teacher/school-level factors. Within Bronfenbrenner's (1979) microsystem, parents who reported higher educational levels held more positive expectations for their children's schooling than parents who reported lower educational levels. Within Bronfenbrenner's (1979) mesosystem, parents who reported a positive or higher relationship quality with their child's teacher also reported higher academic expectations, compared to parents who reported a negative or lower relationship quality with their child's teacher. Parents' positive reports of the parent-teacher relationship may indicate a strong working relationship with the teacher, a belief in the teacher's capabilities to meet the needs of their child, and parents' active involvement in school – all factors, logically, that could increase parents' academic expectations. Interestingly, parents' perceptions of parent-teacher relationship quality were significantly correlated with their expectations for the school year, while parents' self-reported involvement with the school was not. Similar to our findings, Zablotsky and colleagues (2012) found that parents' level of school involvement was uncorrelated with their overall satisfaction with the school among parents of children with ASD. These findings suggest that it is important to consider the nature and quality of parents' interactions with their child's teacher and school – not just the quantity – when examining the relation between parental school involvement and their feelings about their child's school experiences.

Strengths and Limitations

The current study contains multiple methodological strengths, including a large sample recruited from the community, the use of the ADOS to verify ASD diagnosis among child participants, and the efforts of a coding team, which achieved high inter-rater reliability, to code qualitative interview data. The current study also benefited from a high rate of teacher participation. While children's level of cognitive functioning was not found to be significantly correlated with parents' expectations, the inclusion of children with a range of cognitive abilities increases the external validity and applicability of our work. Further, the

majority of our child participants attended public schools, thus reflecting the educational experiences of the majority of young children with ASD in the United States.

It is likewise important to note that current findings may not generalize to the school experiences of children with ASD and moderate-to-severe intellectual disability. Also, many participating families were economically resourced. While household income was not found to be significantly correlated with parents' expectations, our findings may not capture the experiences of economically disadvantaged parents of children with ASD. As is the case with all interview data, there is the possibility of social desirability effects, or that parents may have overemphasized the extent to which they felt positive about school. Also as noted, the correlational nature of the current study cannot speak to causality or to transactional relations. Specifically, it is uncertain whether parents held high expectations for their children because they noticed children's strengths, whether children developed greater strengths in response to their parents' positive expectations, or whether there were unmeasured variables that influenced both expectations and child outcomes.

An important area for future investigation is whether parents' expectations play a unique role in predicting later school adjustment and academic outcomes for children with ASD, as they may for typically developing children (e.g., de Boer & van der Werf, 2015). Increased understanding of parents' expectations, and the different factors they consider when forming these expectations, may ultimately inform supports for parents as they navigate schooling for their child with ASD.

References

Achenbach, T. M., & Rescorla, L. A. (2000). *Manual for the ASEBA preschool forms & profiles*. Burlington, VT: University of Vermont Department of Psychiatry.

Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA school-age forms & profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.

Alexander, K. L., Entwistle, D. R., & Bedinger, S. D. (1994). When expectations work: Race and socio-economic differences in school performance. *So-*

cial Psychology Quarterly, 57, 283–299. 10.2307/2787156

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development*, 67, 1206–1222.

Briley, D. A., Harden, P., & Tucker-Drob, E. M. (2014). Child characteristics and parental educational expectations: Evidence for transmission with transaction. *Developmental Psychology*, 50, 2614–2632. 10.1037/a0038094

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.

Carrow-Woolfolk, E. (1999). *Comprehensive assessment of spoken language* (CASL). Circle Pines, MN: American Guidance Service.

Chiang, H., Cheung, Y. K., Hickson, L., Xiang, R., & Tsai, L. Y. (2012). Predictive factors of participation in postsecondary education for high school leavers with autism. *Journal of Autism and Developmental Disorders*, 42, 685–696. 10.1007/s10803-011-1297-7

Constantino, J. N., & Gruber, C. P. (2005). *Social responsiveness scale* (SRS). Los Angeles: Western Psychological Services.

Constantino, J. N., Przybeck, T., Friesen, D., & Todd, R. D. (2000). Reciprocal social behavior in children with and without pervasive developmental disorders. *Journal of Developmental and Behavioral Pediatrics*, 21, 2–11. 10.1097/00004703-200002000-00002

Corrigan, A. (2002). *Parent-teacher involvement questionnaire: Parent* (Fast Track Project technical report). Retrieved from <http://www.fasttrackproject.org/techrept/p/ptp1tech.pdf>

Davis-Kean, P. E. (2005). The influence of parents' education and family income on child achievement: The indirect role of parental expectations and the home environment. *Journal of Family Psychology*, 19, 294–304. 10.1037/0893-3200.19.2.294

de Boer, H., & van der Werf, M. P. C. (2015). Influence of misaligned parents' expectations on long-term student academic performance. *Educational Research and Evaluation*, 21, 232–257. 10.1080/13803611.2015.1039548

Eisenhower, A. S., Bush, H. H., & Blacher, J. (2015). Student-teacher relationships and early school adaptation of children with ASD: A conceptual framework. *Journal of Applied School Psychology*, 31, 256–296. 10.1080/15377903.2015.1056924

Frankel, F., Myatt, R., & Feinberg, D. (2007). Parent-assisted friendship training for children with autism spectrum disorders: Effects of psychotropic medication. *Child Psychiatry and Human Development*, 37, 337–346. 10.1007/s10578-007-0053-x

Gresham, F. M., & Elliott, S. N. (2008). *Social Skills Improvement System Rating Scales manual*. Minneapolis, MN: NCS Pearson.

Individuals With Disabilities Education Act, 20 U.S.C. § 1400 (2004).

Ivey, J. K. (2004). What do parents expect? A study of likelihood and importance issues for children with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 19, 27–33. 10.1177/10883576040190010401

Johnson, W., McGue, M., & Iacono, W. G. (2007). How parents influence school grades: Hints from a sample of adoptive and biological families. *Learning and Individual Differences*, 17, 201–219. 10.1016/j.lindif.2007.04.004

Lawrence, E. (2015). The family-school interaction: School composition and parental educational expectations in the United States. *British Educational Research Journal*, 41, 183–209. 10.1002/berj.3139

Lord, C., Rutter, M., & Le Coulter, A. (1994). Autism Diagnostic Interview-revised: A revised version of a diagnostic interview for caregivers of individuals with possible pervasive developmental disorders. *Journal of Autism and Developmental Disorders*, 24, 659–685. 10.1007/BF02172145

Lord, C., Risi, S., Lambrecht, L., Cook, E. H., Levthal, B. L., DiLavore, P. C., Pickles, A., & Rutter, M. (2000). The Autism Diagnostic Observation Schedule – generic: A standard measure of social and communication deficits associated with the spectrum of autism. *Journal of Autism and Developmental Disorders*, 30, 205–223. 10.1023/A:1005592401947

Neece, C., & Baker, B. (2008). Predicting maternal parenting stress in middle childhood: The roles of child intellectual status, behaviour problems and social skills. *Journal of Intellectual Disability Research*, 52, 1114–1128. 10.1111/j.1365-2788.2008.01071.x

Newman, T. M., Macomber, D., Naples, A. J., Babitz, T., Volkmar, F., & Grigorenko, E. L. (2007). Hyperlexia in children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 37, 760–774. 10.1007/s10803-006-0206-y

NICHD Early Child Care Research Network. (2005). Predicting individual differences in attention, memory, and planning in first graders from experiences at home, child care, and school. *Developmental Psychology*, 41, 99–114. 10.1037/0012-1649.41.1.99

Odom, S. L., Vitztum, J., Wolery, R., Lieber, J., Sandall, S., Hanson, M. J., ... Horn, E. (2004). Preschool inclusion in the United States: A review of research from an ecological systems perspective. *Journal of Research in Special Educational Needs*, 4, 17–49. 10.1111/j.1471-3802.2004.00016.x

Parsons, S., Lewis, A., & Ellins, J. (2009). The views and experiences of parents of children with autistic spectrum disorder about educational provision: Comparisons with parents of children with

other disabilities from an online survey. *European Journal of Special Needs Education*, 24, 37–58. doi: <http://dx.doi.org/10.1080/08856250802596790>

Pianta, R. C. (2010). Going to school in the United States: The shifting ecology of transition. In S. L. Kagan & K. Tarrant (Eds.), *Transitions for young children: Creating connections across early childhood systems* (pp. 33–44). Baltimore, MD: Paul H. Brookes.

Reichow, B., Salamack, S., Paul, R., Volkmar, F., & Klin, A. (2008). Pragmatic assessment in autism spectrum disorders: A comparison of standard measure with parent report. *Communication Disorders Quarterly*, 29, 169–176. 10.1177/1525740108318697

Russell, F. (2005). Starting school: The importance of parents' expectations. *Journal of Research in Special Education Needs*, 5, 118–126. 10.1111/j.1471-3802.2005.00051.x

Sattler, J. (2008). *Assessment of children: Cognitive foundations* (5th ed.). San Diego, CA: Jerome M. Sattler Publisher.

Sonuga-Barke, E. J. S., Stevenson, J., Thompson, M., Lamparelli, M., & Goldfoot, M. (1995). The impact of pre-school children's intelligence and adjustment on their parents' long-term educational expectations. *Educational Psychology*, 15, 141–148. 10.1080/0144341950150203

Tobin, H., Staunton, S., Mandy, W., Skuse, D., Hellriegel, J., Baykaner, O., . . . Murin, M. (2012). A qualitative examination of parental experiences of the transition to mainstream secondary school for children with an autism spectrum disorder. *Educational & Child Psychology*, 29, 75–85.

Tucker, V., & Schwartz, I. (2013). Parents' perspectives of collaboration with school professionals: Barriers and facilitators to successful partnerships in planning for students with ASD. *School Mental Health*, 5, 3–14. doi: 10.1007/s12310-012-9102-0

Wagner, M., Newman, L., Cameto, R., Javitz, H., & Valdes, K. (2012). A national picture of parent and youth participation in IEP and transition planning meetings. *Journal of Disability Policy Studies*, 23, 140–155. 10.1177/1044207311425384

Wechsler, D. (2002). *Wechsler Preschool and Primary Scale of Intelligence-Third Edition (WPPSI-III)*. San Antonio, TX: The Psychological Corporation.

Woodcock, R. W., McGrew, K. S., & Mather, N. (2007). *Woodcock Johnson III Tests of Achievement*. Rolling Meadows, IL: Riverside Publishing.

World Health Organization. (2001). *The International Classification of Functioning, Disability and Health (ICF)*. Geneva: WHO. Retrieved from <http://www.who.int/classifications/icf/en/>

Yamamoto, Y., & Holloway, S. D. (2010). Parental expectations and children's academic performance in sociocultural context. *Educational Psychology Review*, 22, 189–214. 10.1007/s10648-010-9121-z

Zablotsky, B., Boswell, K., & Smith, C. (2012). An evaluation of school involvement and satisfaction of parents of children with autism spectrum disorders. *American Journal on Intellectual and Developmental Disabilities*, 117, 316–330. 10.1352/1944-7558-117.4.316

Received: 25 August 2016

Initial Acceptance: 19 October 2016

Final Acceptance: 20 December 2016